



IFWO

RAW SEQUENCE LISTING

DATE: 08/27/2004

PATENT APPLICATION: US/10/733,816

TIME: 16:54:18

Input Set : N:\Crf3\RULE60\10733816.raw

Output Set: N:\CRF4\08272004\J733816.raw

1 <110> APPLICANT: Harrison, Stephen D.
 2 Hall, John A.
 3 Calderon-Cacia, Maria
 4 Zhong, Ziyang
 5 Fang, Eric Y.
 6 Coit, Doris G.
 7 Nguyen, Steve H.
 8 Medina-Selby, Angelica
 9 <120> TITLE OF INVENTION: GSK3 POLYPEPTIDES
 10 <130> FILE REFERENCE: 59516-162/PP-15876.002/200130.524
 11 <140> CURRENT APPLICATION NUMBER: US/10/733,816
 12 <141> CURRENT FILING DATE: 2003-12-10
 13 <150> PRIOR APPLICATION NUMBER: US/10/211,412
 14 <151> PRIOR FILING DATE: 2002-07-31
 15 <150> PRIOR APPLICATION NUMBER: US09/916,109
 16 <151> PRIOR FILING DATE: 2001-07-25
 17 <160> NUMBER OF SEQ ID NOS: 11
 18 <170> SOFTWARE: FastSEQ for Windows Version 4.0
 20 <210> SEQ ID NO: 1
 21 <211> LENGTH: 420
 22 <212> TYPE: PRT
 23 <213> ORGANISM: Homo sapiens
 24 <400> SEQUENCE: 1
 25 Met Ser Gly Arg Pro Arg Thr Thr Ser Phe Ala Glu Ser Cys Lys Pro
 26 1 5 10 15
 27 Val Gln Gln Pro Ser Ala Phe Gly Ser Met Lys Val Ser Arg Asp Lys
 28 20 25 30
 29 Asp Gly Ser Lys Val Thr Thr Val Val Ala Thr Pro Gly Gln Gly Pro
 30 35 40 45
 31 Asp Arg Pro Gln Glu Val Ser Tyr Thr Asp Thr Lys Val Ile Gly Asn
 32 50 55 60
 33 Gly Ser Phe Gly Val Val Tyr Gln Ala Lys Leu Cys Asp Ser Gly Glu
 34 65 70 75 80
 35 Leu Val Ala Ile Lys Lys Val Leu Gln Asp Lys Arg Phe Lys Asn Arg
 36 85 90 95
 37 Glu Leu Gln Ile Met Arg Lys Leu Asp His Cys Asn Ile Val Arg Leu
 38 100 105 110
 39 Arg Tyr Phe Phe Tyr Ser Ser Gly Glu Lys Lys Asp Glu Val Tyr Leu
 40 115 120 125
 41 Asn Leu Val Leu Asp Tyr Val Pro Glu Thr Val Tyr Arg Val Ala Arg
 42 130 135 140
 43 His Tyr Ser Arg Ala Lys Gln Thr Leu Pro Val Ile Tyr Val Lys Leu
 44 145 150 155 160

ENTERED

RAW SEQUENCE LISTING

DATE: 08/27/2004

PATENT APPLICATION: US/10/733,816

TIME: 16:54:18

Input Set : N:\Crif3\RULE60\10733816.raw

Output Set: N:\CRF4\08272004\J733816.raw

```

45   Tyr Met Tyr Gln Leu Phe Arg Ser Leu Ala Tyr Ile His Ser Phe Gly
46                               165                               170                               175
47   Ile Cys His Arg Asp Ile Lys Pro Gln Asn Leu Leu Leu Asp Pro Asp
48                               180                               185                               190
49   Thr Ala Val Leu Lys Leu Cys Asp Phe Gly Ser Ala Lys Gln Leu Val
50                               195                               200                               205
51   Arg Gly Glu Pro Asn Val Ser Tyr Ile Cys Ser Arg Tyr Tyr Arg Ala
52                               210                               215                               220
53   Pro Glu Leu Ile Phe Gly Ala Thr Asp Tyr Thr Ser Ser Ile Asp Val
54   225                               230                               235                               240
55   Trp Ser Ala Gly Cys Val Leu Ala Glu Leu Leu Leu Gly Gln Pro Ile
56                               245                               250                               255
57   Phe Pro Gly Asp Ser Gly Val Asp Gln Leu Val Glu Ile Ile Lys Val
58                               260                               265                               270
59   Leu Gly Thr Pro Thr Arg Glu Gln Ile Arg Glu Met Asn Pro Asn Tyr
60                               275                               280                               285
61   Thr Glu Phe Lys Phe Pro Gln Ile Lys Ala His Pro Trp Thr Lys Val
62   290                               295                               300
63   Phe Arg Pro Arg Thr Pro Pro Glu Ala Ile Ala Leu Cys Ser Arg Leu
64   305                               310                               315                               320
65   Leu Glu Tyr Thr Pro Thr Ala Arg Leu Thr Pro Leu Glu Ala Cys Ala
66                               325                               330                               335
67   His Ser Phe Phe Asp Glu Leu Arg Asp Pro Asn Val Lys His Pro Asn
68                               340                               345                               350
69   Gly Arg Asp Thr Pro Ala Leu Phe Asn Phe Thr Thr Gln Glu Leu Ser
70   355                               360                               365
71   Ser Asn Pro Pro Leu Ala Thr Ile Leu Ile Pro Pro His Ala Arg Ile
72   370                               375                               380
73   Gln Ala Ala Ala Ser Thr Pro Thr Asn Ala Thr Ala Ala Ser Asp Ala
74   385                               390                               395                               400
75   Asn Thr Gly Asp Arg Gly Gln Thr Asn Asn Ala Ala Ser Ala Ser Ala
76                               405                               410                               415
77   Ser Asn Ser Thr
78                               420
80 <210> SEQ ID NO: 2
81 <211> LENGTH: 394
82 <212> TYPE: PRT
83 <213> ORGANISM: Homo sapiens
84 <400> SEQUENCE: 2
85   Met Glu Tyr Met Pro Met Glu Gly Gly Gly Met Ser Gly Arg Pro Arg
86   1                               5                               10                               15
87   Thr Thr Ser Phe Ala Glu Ser Cys Lys Pro Val Gln Gln Pro Ser Ala
88   20                               25                               30
89   Phe Gly Ser Met Lys Val Ser Arg Asp Lys Asp Gly Ser Lys Val Thr
90   35                               40                               45
91   Thr Val Val Ala Thr Pro Gly Gln Gly Pro Asp Arg Pro Gln Glu Val
92   50                               55                               60
93   Ser Tyr Thr Asp Thr Lys Val Ile Gly Asn Gly Ser Phe Gly Val Val
94   65                               70                               75                               80

```

RAW SEQUENCE LISTING

DATE: 08/27/2004

PATENT APPLICATION: US/10/733,816

TIME: 16:54:18

Input Set : N:\Crf3\RULE60\10733816.raw

Output Set: N:\CRF4\08272004\J733816.raw

```

95   Tyr Gln Ala Lys Leu Cys Asp Ser Gly Glu Leu Val Ala Ile Lys Lys
96               85                      90                      95
97   Val Leu Gln Asp Lys Arg Phe Lys Asn Arg Glu Leu Gln Ile Met Arg
98               100                     105                     110
99   Lys Leu Asp His Cys Asn Ile Val Arg Leu Arg Tyr Phe Phe Tyr Ser
100              115                     120                     125
101   Ser Gly Glu Lys Lys Asp Glu Val Tyr Leu Asn Leu Val Leu Asp Tyr
102              130                     135                     140
103   Val Pro Glu Thr Val Tyr Arg Val Ala Arg His Tyr Ser Arg Ala Lys
104              145                     150                     155                     160
105   Gln Thr Leu Pro Val Ile Tyr Val Lys Leu Tyr Met Tyr Gln Leu Phe
106              165                     170                     175
107   Arg Ser Leu Ala Tyr Ile His Ser Phe Gly Ile Cys His Arg Asp Ile
108              180                     185                     190
109   Lys Pro Gln Asn Leu Leu Leu Asp Pro Asp Thr Ala Val Leu Lys Leu
110              195                     200                     205
111   Cys Asp Phe Gly Ser Ala Lys Gln Leu Val Arg Gly Glu Pro Asn Val
112              210                     215                     220
113   Ser Tyr Ile Cys Ser Arg Tyr Tyr Arg Ala Pro Glu Leu Ile Phe Gly
114              225                     230                     235                     240
115   Ala Thr Asp Tyr Thr Ser Ser Ile Asp Val Trp Ser Ala Gly Cys Val
116              245                     250                     255
117   Leu Ala Glu Leu Leu Leu Gly Gln Pro Ile Phe Pro Gly Asp Ser Gly
118              260                     265                     270
119   Val Asp Gln Leu Val Glu Ile Ile Lys Val Leu Gly Thr Pro Thr Arg
120              275                     280                     285
121   Glu Gln Ile Arg Glu Met Asn Pro Asn Tyr Thr Glu Phe Lys Phe Pro
122              290                     295                     300
123   Gln Ile Lys Ala His Pro Trp Thr Lys Val Phe Arg Pro Arg Thr Pro
124              305                     310                     315                     320
125   Pro Glu Ala Ile Ala Leu Cys Ser Arg Leu Leu Glu Tyr Thr Pro Thr
126              325                     330                     335
127   Ala Arg Leu Thr Pro Leu Glu Ala Cys Ala His Ser Phe Phe Asp Glu
128              340                     345                     350
129   Leu Arg Asp Pro Asn Val Lys His Pro Asn Gly Arg Asp Thr Pro Ala
130              355                     360                     365
131   Leu Phe Asn Phe Thr Thr Gln Glu Leu Ser Ser Asn Pro Pro Leu Ala
132              370                     375                     380
133   Thr Ile Leu Ile Pro Pro His Ala Arg Ile
134              385                     390
136 <210> SEQ ID NO: 3
137 <211> LENGTH: 361
138 <212> TYPE: PRT
139 <213> ORGANISM: Homo sapiens
140 <400> SEQUENCE: 3
141   Met Glu Tyr Met Pro Met Glu Gly Gly Gly Gly Ser Lys Val Thr Thr
142       1               5               10               15
143   Val Val Ala Thr Pro Gly Gln Gly Pro Asp Arg Pro Gln Glu Val Ser
144              20               25               30

```

RAW SEQUENCE LISTING

DATE: 08/27/2004

PATENT APPLICATION: US/10/733,816

TIME: 16:54:18

Input Set : N:\Crf3\RULE60\10733816.raw

Output Set: N:\CRF4\08272004\J733816.raw

```

145   Tyr Thr Asp Thr Lys Val Ile Gly Asn Gly Ser Phe Gly Val Val Tyr
146           35                      40                      45
147   Gln Ala Lys Leu Cys Asp Ser Gly Glu Leu Val Ala Ile Lys Lys Val
148       50                      55                      60
149   Leu Gln Asp Lys Arg Phe Lys Asn Arg Glu Leu Gln Ile Met Arg Lys
150       65                      70                      75                      80
151   Leu Asp His Cys Asn Ile Val Arg Leu Arg Tyr Phe Phe Tyr Ser Ser
152           85                      90                      95
153   Gly Glu Lys Lys Asp Glu Val Tyr Leu Asn Leu Val Leu Asp Tyr Val
154           100                      105                      110
155   Pro Glu Thr Val Tyr Arg Val Ala Arg His Tyr Ser Arg Ala Lys Gln
156       115                      120                      125
157   Thr Leu Pro Val Ile Tyr Val Lys Leu Tyr Met Tyr Gln Leu Phe Arg
158       130                      135                      140
159   Ser Leu Ala Tyr Ile His Ser Phe Gly Ile Cys His Arg Asp Ile Lys
160       145                      150                      155                      160
161   Pro Gln Asn Leu Leu Leu Asp Pro Asp Thr Ala Val Leu Lys Leu Cys
162           165                      170                      175
163   Asp Phe Gly Ser Ala Lys Gln Leu Val Arg Gly Glu Pro Asn Val Ser
164           180                      185                      190
165   Tyr Ile Cys Ser Arg Tyr Tyr Arg Ala Pro Glu Leu Ile Phe Gly Ala
166       195                      200                      205
167   Thr Asp Tyr Thr Ser Ser Ile Asp Val Trp Ser Ala Gly Cys Val Leu
168       210                      215                      220
169   Ala Glu Leu Leu Leu Gly Gln Pro Ile Phe Pro Gly Asp Ser Gly Val
170       225                      230                      235                      240
171   Asp Gln Leu Val Glu Ile Ile Lys Val Leu Gly Thr Pro Thr Arg Glu
172           245                      250                      255
173   Gln Ile Arg Glu Met Asn Pro Asn Tyr Thr Glu Phe Lys Phe Pro Gln
174       260                      265                      270
175   Ile Lys Ala His Pro Trp Thr Lys Val Phe Arg Pro Arg Thr Pro Pro
176       275                      280                      285
177   Glu Ala Ile Ala Leu Cys Ser Arg Leu Leu Glu Tyr Thr Pro Thr Ala
178       290                      295                      300
179   Arg Leu Thr Pro Leu Glu Ala Cys Ala His Ser Phe Phe Asp Glu Leu
180       305                      310                      315                      320
181   Arg Asp Pro Asn Val Lys His Pro Asn Gly Arg Asp Thr Pro Ala Leu
182           325                      330                      335
183   Phe Asn Phe Thr Thr Gln Glu Leu Ser Ser Asn Pro Pro Leu Ala Thr
184           340                      345                      350
185   Ile Leu Ile Pro Pro His Ala Arg Ile
186       355                      360
188 <210> SEQ ID NO: 4
189 <211> LENGTH: 483
190 <212> TYPE: PRT
191 <213> ORGANISM: Homo sapiens
192 <400> SEQUENCE: 4
193   Met Ser Gly Gly Gly Pro Ser Gly Gly Gly Pro Gly Gly Ser Gly Arg
194       1                      5                      10                      15

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/733,816

DATE: 08/27/2004

TIME: 16:54:18

Input Set : N:\Crif3\RULE60\10733816.raw

Output Set: N:\CRF4\08272004\J733816.raw

```

195 Ala Arg Thr Ser Ser Phe Ala Glu Pro Gly Gly Gly Gly Gly Gly Gly
196                20                25                30
197 Gly Gly Gly Pro Gly Gly Ser Ala Ser Gly Pro Gly Gly Thr Gly Gly
198                35                40                45
199 Gly Lys Ala Ser Val Gly Ala Met Gly Gly Gly Val Gly Ala Ser Ser
200                50                55                60
201 Ser Gly Gly Gly Pro Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Pro
202        65                70                75                80
203 Gly Ala Gly Thr Ser Phe Pro Pro Pro Gly Val Lys Leu Gly Arg Asp
204                85                90                95
205 Ser Gly Lys Val Thr Thr Val Val Ala Thr Leu Gly Gln Gly Pro Glu
206                100               105               110
207 Arg Ser Gln Glu Val Ala Tyr Thr Asp Ile Lys Val Ile Gly Asn Gly
208                115               120               125
209 Ser Phe Gly Val Val Tyr Gln Ala Arg Leu Ala Glu Thr Arg Glu Leu
210        130               135               140
211 Val Ala Ile Lys Lys Val Leu Gln Asp Lys Arg Phe Lys Asn Arg Glu
212        145               150               155               160
213 Leu Gln Ile Met Arg Lys Leu Asp His Cys Asn Ile Val Arg Leu Arg
214                165               170               175
215 Tyr Phe Phe Tyr Ser Ser Gly Glu Lys Lys Asp Glu Leu Tyr Leu Asn
216                180               185               190
217 Leu Val Leu Glu Tyr Val Pro Glu Thr Val Tyr Arg Val Ala Arg His
218        195               200               205
219 Phe Thr Lys Ala Lys Leu Thr Ile Pro Ile Leu Tyr Val Lys Val Tyr
220        210               215               220
221 Met Tyr Gln Leu Phe Arg Ser Leu Ala Tyr Ile His Ser Gln Gly Val
222        225               230               235               240
223 Cys His Arg Asp Ile Lys Pro Gln Asn Leu Leu Val Asp Pro Asp Thr
224                245               250               255
225 Ala Val Leu Lys Leu Cys Asp Phe Gly Ser Ala Lys Gln Leu Val Arg
226                260               265               270
227 Gly Glu Pro Asn Val Ser Tyr Ile Cys Ser Arg Tyr Tyr Arg Ala Pro
228        275               280               285
229 Glu Leu Ile Phe Gly Ala Thr Asp Tyr Thr Ser Ser Ile Asp Val Trp
230        290               295               300
231 Ser Ala Gly Cys Val Leu Ala Glu Leu Leu Leu Gly Gln Pro Ile Phe
232        305               310               315               320
233 Pro Gly Asp Ser Gly Val Asp Gln Leu Val Glu Ile Ile Lys Val Leu
234                325               330               335
235 Gly Thr Pro Thr Arg Glu Gln Ile Arg Glu Met Asn Pro Asn Tyr Thr
236                340               345               350
237 Glu Phe Lys Phe Pro Gln Ile Lys Ala His Pro Trp Thr Lys Val Phe
238        355               360               365
239 Lys Ser Arg Thr Pro Pro Glu Ala Ile Ala Leu Cys Ser Ser Leu Leu
240        370               375               380
241 Glu Tyr Thr Pro Ser Ser Arg Leu Ser Pro Leu Glu Ala Cys Ala His
242        385               390               395               400
243 Ser Phe Phe Asp Glu Leu Arg Cys Leu Gly Thr Gln Leu Pro Asn Asn

```

RAW SEQUENCE LISTING ERROR SUMMARY

DATE: 08/27/2004

PATENT APPLICATION: US/10/733,816

TIME: 16:54:19

Input Set : N:\Crf3\RULE60\10733816.raw

Output Set: N:\CRF4\08272004\J733816.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:11; Xaa Pos. 2,3,4

VERIFICATION SUMMARY

DATE: 08/27/2004

PATENT APPLICATION: US/10/733,816

TIME: 16:54:19

Input Set : N:\Crf3\RULE60\10733816.raw

Output Set: N:\CRF4\08272004\J733816.raw

L:464 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11 after pos.:0